

REMARKS

The Office Action of October 29, 2008, and the prior art cited and relied upon therein have been carefully reviewed. The claims in the application remain as claims 1-19, and these claims define patentable subject matter warranting their allowance. The applicants respectfully request favorable reconsideration and allowance.

Acknowledgement by the PTO of the receipt of applicants' papers filed under Section 119 is noted.

Figs. 1-4 of the drawings have been criticized as not being designated as directed to "Prior Art" and the examiner has required replacement drawings containing such a designation.

Attached are two sheets of drawing each labeled "Replacement Sheet", containing Figs. 1-4, each marked "Prior Art", but the drawings otherwise being identical to the original Figs. 1-4. Entry and approval are respectfully requested.

The claim objections have been noted. The examiner is thanked for having noticed the typographical and/or clerical errors involved. These have now been corrected.

Claims 1-3 and 5-19 have been rejected as obvious under Section 103 from McReynolds USP 6,425,972 in view of Ikeda et al USP 4,485,171 (Ikeda). This rejection is respectfully traversed.

The present invention is characterized in that a fine channel space for filling an organic solvent is provided, and the fine channel space bonds the upper and lower substrates in a bonding region of a circumference of the sample filling space of the upper substrate, that is, the fine channel space is a sealed region between the upper and lower substrates.

McReynolds discloses a top substrate, a bottom substrate and grooves and/or indentations, and Ikeda discloses a method of bonding between an upper work piece and a lower work piece. However, McReynolds and Ikeda both alone and together do not teach a method of bonding plastic microchips through the fine channel space by introducing an organic solvent into the fine channel space.

In McReynolds, the grooves and/or indentations 16 (see Fig. 1) are elements for communication with at least one of the channels and/or chambers, not for bonding between a top substrate and a bottom substrate. Rather, the grooves 16 of McReynolds correspond to sample filling space channel (10) of applicants' embodiments, that is, the grooves 16 of McReynolds are not sealed regions.

Ikeda merely discloses a method of bonding between an upper work piece and a lower work piece, and does not disclose a bonding method using a fine channel space like that of the present invention.

As neither McReynolds nor Ikeda discloses a main feature of the present invention, there is no way that any combination of such references, even if such a combination were obvious, could reach any of applicants' claims. Without the guidance of the present specification, it is difficult to see how the person of ordinary skill in the art could have combined the two references in any way as of the time the present invention was made, let alone in any way that would lead to the claimed subject matter.

In fact, applicants submit that the two references are antithetical to one another. McReynolds provides a joining or bonding process by the use of vacuum, and that indeed is a key feature of McReynolds. Ikeda provides a type of sealing at location 7 as shown in Fig. 7, by the use of ultrasonic sealing. Neither of these techniques relies on or needs an organic solvent.¹ If the skilled person is to somehow modify McReynolds in view of Ikeda, why would that person substitute Ikeda's solvent bonding for the main feature of McReynolds, and thereby destroy a main aspect of McReynolds? The short answer is that it would not have been obvious to do so.

To summarize, (1) the references are sufficiently diverse and contrary to one another that it would not have been obvious to even attempt to combine them in any way, and (2) even if the references were somehow combinable in an obvious way, contrary to applicants' position, no possible combination could provide claimed features which are not shown by either reference.

¹ Applicants recognize that Ikeda may use methylene chloride to facilitate bonding (column 5, lines 14-17), but that does not involve the introduction of an organic solvent into a fine channel space as claimed.

Withdrawal of the rejection is in order and is respectfully requested.

Applicants remarks made above apply to the main claims 1, 2 and 10. The claims which depend therefrom are patentable for **at least** the same reasons.

Claim 4 has been rejected as obvious from McReynolds in view of Ikeda and further in view of Kilichowski et al USP 4,357,369 (Kilichowski). This rejection is respectfully traversed.

Claim 4 depends from and incorporates the subject matter of claim 2, and therefore claim 4 defines patentable subject matter over the proposed combination of McReynolds in view of Ikeda for the reasons pointed out above. Kilichowski has not been cited to make up for the aforementioned deficiencies of the proposed combination of McReynolds in view of Ikeda, and indeed does not do so. Thus, even if were obvious to somehow modify McReynolds or Ikeda by a teaching of Kilichowski, the subject matter of claim 4 would still not be reached.

Withdrawal of this rejection is in order and is respectfully requested.

The prior art documents of record and not relied upon by the PTO have been noted, along with the implication that such documents are deemed by the PTO to be insufficiently material to warrant their application against any of applicants' claims.

Applicants believe that all issues raised in the Action have been addressed above in a manner that should lead to patentability of the present application. Favorable reconsideration and allowance are respectfully requested.

Respectfully submitted,

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